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Mobilizing Rural Deposits: Discovering the Forgotten Half of Financial Intermediation

by

Richard L. Meyer

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Agricultural Finance Program
Department of Agricultural Economics
and Rural Sociology
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210

INTRODUCTION

The development of rural financial markets in developing countries during the past couple of decades has been dominated by a preoccupation of governments to expand the supply of loans to farmers. Policies have been implemented to push cheap loans into rural areas, and to assure lenders of adequate funds for such loans. Funds have frequently been provided to lenders through rediscount facilities of the central bank (often through concessionally-priced funds from international donors). Regulations have also been introduced to require financial institutions to either lend directly to farmers or make deposits with specialized farm lenders. Too frequently, deposit mobilization has been the forgotten half of financial intermediation (Vogel).

Three factors have contributed to a fundamental rethinking of this approach to rural finance. First, the failures and distortions of the cheap rural credit strategy have been amply documented (Adams, Graham and Von Pischke)[1/]. Second, domestic resource mobilization is becoming more urgent out of necessity. Many countries face greater difficulty today in obtaining cheap foreign funds because they are already heavily indebted, commercial lenders are wary of increasing their exposure in many developing countries, and the international agencies don't have as abundant funds as previously (Abbott; Fry). Third, the once pessimistic view that rural people are too poor to save has been challenged. It is argued that low rural savings rates are often due more to inappropriate policies than to poverty (Adams).

The awakening of interest in rural savings has sparked interest in rural deposit mobilization. A number of recent studies have been conducted on the need for and the impact of greater rural deposit mobilization on rural financial institutions. Several important experiments have been and are being conducted to test the response of rural households to various techniques used by financial institutions to attract deposits.

The purpose of this paper is to summarize some of the recent developments in this heretofore forgotten half of financial intermediation. The presentation is organized to address six questions: Why was rural deposit mobilization forgotten? Why is deposit mobilization important for rural financial institutions? What is the potential for mobilizing rural deposits? What factors contribute to rural deposit mobilization? What is the outcome of recent experimental projects to mobilize rural deposits? What are the key remaining issues to be addressed in rural deposit mobilization?

WHY WAS RURAL DEPOSIT MOBILIZATION FORGOTTEN?

Many of the developments in rural finance in developing countries during the past two decades have been aimed largely at increasing agricultural lending, referred to as the supply lending approach to financial development. Interestingly, Brazil has pursued this developmental strategy as aggressively as any country and the resulting agricultural credit to GDP ratios at various times have been amongst the highest observed in any developing country (Araujo and Meyer).

The following summary characterizes many of the policies and programs designed for agricultural credit, and many of these features are also found in small or microenterprise programs.

1. Increase the supply of funds available for lending to the priority sector (small farm or nonfarm enterprises) through:
   a. loan portfolio quotas or targets for existing lenders,
   b. the creation of specialized financial institutions to work only with the priority sector(s),
   c. grants and subsidies for non-financial institutions (ministries, departments, institutes, NGOs, PVOs),
   d. central bank rediscount programs, often funded by donors,
   e. mandatory placement of bank and/or public sector deposits in specialized lending institutions, and
   f. nationalization of banks that fail to meet social objectives.

2. Reduce the interest rate on loans made to the priority sector through:
   a. interest rate ceilings on loans which set the lowest rates for the smallest/poorest borrowers,
   b. low interest rates charged by the central bank on refinance funds,
   c. encouraging banks to cross-subsidize by charging higher rates to non-priority borrowers in compensation for low rates to priority borrowers, and
   d. direct government interest subsidies to lenders.

3. Reduce lending risks and costs through:
   a. detailed targeting of loans including specifications about production practices and input use required of borrowers,
   b. crop and loan guarantee programs,
   c. creation of joint liability through lending to groups of borrowers, and
   d. technical assistance to lenders to help improve institutional efficiency.

Three factors help explain why rural deposit mobilization was not stressed as a source of a least part of the funds employed in these credit programs. First, it is frequently assumed that poor rural households can not or will not save. More will be said about this later. Second, subsidized lending rates were a cornerstone of many programs, justified either as a means to encourage farmers to borrow to make socially desireable investments or as an attempt to improve rural income distribution [2/]. However, since interest rates were set low for loans, interest rates paid on deposits also had to be low unless subsidies were to be provided to savers. Low deposit rates then discouraged rural deposits. Third, large amounts of foreign grants and loans were available to finance agricultural credit at subsidized rates. These funds were available to lenders at low interest rates so there was little incentive for them to mobilize rural deposits, especially if they expected that rural deposit accounts would be small and expensive to administer. In fact, some specialized agencies, such as agricultural development banks, were prevented by regulations from accepting deposits even though they had a wide network of branches. Therefore, it can be concluded that the strategy of subsidized agricultural credit precluded a major role for rural deposits.

WHY IS DEPOSIT MOBILIZATION IMPORTANT FOR RURAL FINANCIAL INSTITUTIONS?

There are several reasons why the supply lending strategy undermined the viability of rural financial institutions, and why strong rural deposit mobilization may help to strengthen these institutions.[3/] First, the supposedly cheap funds available from the central bank refinance window and international agencies may not be as cheep as they appear because of the heavy documentation and reporting requirements for such funds. For example, lending costs in Honduras for a commercial bank were only 3 percent, while they were more than 8 percent for the Agricultural Development Bank which relied heavily on external funds. Furthermore in the commercial banks, lending costs were almost 8 percent when using donor funds but ranged from 1 to 6 percent for loans made with the bank's own funds (Cuevas and Graham).

Second, financial institutions may achieve economies of scope when they engage in the multiple functions of lending and deposit mobilization rather than just lending alone. The reasons may be two-fold. First, there may be some efficiencies to be exploited when a financial institution has a branch network for lending but mobilizes no deposits. This was the case with the Agricultural Development Bank in the Dominican Republic, which began accepting deposits with few additional workers in the existing branches (Gonzalez-Vega (1984)). Secondly, there may be informational economies when an institution has previous deposit history with a loan applicant. The deposit experience may provide information on an applicant's financial management, cash

flow, savings habits and wealth which contribute to better lending decisions.

A third factor is that when financial institutions rely upon external funds and only participate in targeted lending programs, they must follow the rules and regulations provided on authorized sizes and types of loans, amount to lend each borrower, disbursement and repayment schedules and collateral requirements. When lenders mobilize their own resources, they can develop loan programs that conform more closely to their own lending standards and that more adequately supply the needs of local farmers and communities. They may be able to more easily reject poor credit risks and resist the political pressures that often enter into loan allocation when credit is rationed due to excess demand.

Fourth, repayment performance may be superior on loans made through mobilized funds for several additional reasons[4]. If loan funds are drawn from savings made by members of the community, the willingness of the borrowers to repay is often dramatically increased. The use of local savings, thus, promotes borrower responsibility (Deguefe). Another reason is that the attitudes of lenders towards careful borrower screening and loan recovery may change when the funds lent are obtained from depositors who some day expect to withdraw the funds. Specialized lending institutions in particular often spend relatively less effort on loan collection than lending because institutional incentives are given for reaching lending targets (Graham and Cuevas; Nyanin). When lenders take little action to collect, borrowers react with lax repayment. A case study in Nepal showed that collection efforts were more important in explaining loan repayment than farm income and other variables predicted to be important (Maharjan, Loohawenchit and Meyer).

For reasons of costs, independence in credit allocation and good loan recovery, there are, therefore, reasons to believe that mobilizing deposits sets in motion a set of incentives that help an institution to achieve and maintain viability. The entire pattern of institutional objectives and operations is different when an institution is dominated by depositors who demand prudent lending so their deposits are secure than in a borrower dominated institution where the overriding concern is to get cheap loans (Poyo).

WHAT IS THE POTENTIAL FOR MOBILIZING RURAL DEPOSITS?[5]

If rural deposit mobilization can help improve the long-term viability of rural financial institutions, the logical question is what is the potential for mobilizing rural savings in the form of deposits? There are at least five reasons to believe that past assumptions have been far too pessimistic about the amount of savings that are available in rural areas. First, all households save no matter how poor, even if in small amounts for

short periods of time. Abstention from consumption is normal and necessary for survival even if the interval before consumption is fairly short (Von Pischke). Second, farmers save automatically. When production and consumption cycles are not synchronized, farmers regularly store some produce for consumption until the next harvest. Alternatively, they may choose to sell their harvest, pay past debts or expand consumption, and borrow before the next harvest (Bouman). Third, rural households are heterogeneous. Rich households exist alongside poor ones; some households experience surpluses just when others face deficits, so the possibility exists for financial intermediaries to mobilize short and long-term deposits (Meyer and Alicbusan). Fourth, while some rural areas are growing at slow rates and barely keep up with population growth, other areas are experiencing rapid changes in enterprises and technology. Rapid income growth due to technological change can increase rural consumption, savings and investment (Mellor). Indian data show that savings/investment ratios in better-irrigated, more rapidly innovating regions were much better, up to 3 to 15 times the all-Indian average (Krishna and Raychaudhuri; Sigh, Gupta and Singh). Fifth, foreign remittances offer new savings potential for several countries. Many offshore workers come from rural areas and show a propensity for low consumption levels and large scale transfers of liquidity to their country of origin (Gourvez). Some countries have been fairly successful at mobilizing these remittances, but much remains to be done. A recent study in Pakistan showed that much of the U.S. $ 2 Billion received in annual remittances went to rural areas, but only 1.5 percent were channelled into financial assets (Jetha, Akhtar and Rao).

What emerges from the recent studies is that the potential for rural savings is much greater than previously assumed. Furthermore, it is argued that the fact that rural deposits are relatively small is due more to bad policies and lack of appropriate institutions than to low rural income and poor savings habits of rural households.

WHAT FACTORS CONTRIBUTE TO RURAL DEPOSIT MOBILIZATION?

The demand for deposits by rural households is influenced by a variety of economic and noneconomic factors. The political and economic instability that has existed in many countries obviously discourages many economic activities. The degree of monetization of the rural economy effects the choice of assets held by a household. Lack of confidence in institutions generally and banks specifically thwarts all types of financial activities. Literacy and economic sophistication will effect how rural people obtain and utilize new information. All these factors can influence rural deposits but there is little that governments can do about them in the short-run.

There are other factors, however, over which governments have more control and can influence even in the short-run. Rural income is one of these. Almost all analysts agree that an increase in income should lead to a rise in demand for savings generally and deposits specifically. The discrimination that exists against agriculture in many countries reduces income and, therefore, the ability of rural households to hold deposits.

There is considerable debate over the influence of interest rates on savings. An increase in interest rates may stimulate savings by making current consumption expensive in terms of future consumption (substitution effect), or may lower savings by reducing the amount of present savings necessary for a given level of future consumption (income effect). The available evidence, based largely on Asian and Latin American experience, suggest the substitution effect is more important, but not overwhelmingly so (Lanyi and Saracoglu). The important issue for financial intermediation in LDCs is the relationship between rates of interest paid on deposits and savings in financial forms. Advocates for higher rates argue that peasants are economically rational in their financial affairs, and even poor households need and benefit from attractive deposit and savings services. They feel that countries (such as Taiwan and South Korea) have mobilized surprisingly large amounts of rural savings when deposit rates were changed substantially, while rural savings have been depressed in other countries because real deposit rates have ben highly negative due to high inflation rates (Benoit; Mittendorf). Additional evidence on rural deposit potential is found in the experimental projects for rural savings institutions that successfully mobilized large amounts of deposits when interest rates were raised and other incentives were given to savers. Information on these projects is presented below.

Recently more attention has been given to transaction costs because of their influence on the net return obtained from any given interest rate. Transaction costs for rural savers include the explicit costs of photographs, passbooks, travel costs, and other cash costs of depositing and withdrawing savings. Implicit costs include traveling and waiting time to make transactions. Often times the implicit costs are high so the proximity of deposit-taking institutions may be the most important factor affecting access and transactions costs.

A final important factor expected to affect rural deposits is the linkage between savings and lending. Many analysts believe that an important reason for rural household saving is the possibility of eventually getting a loan. This implies that institutions should link savings mobilization with lending, but in practice many rural financial institutions are single function.

Although there have been many studies of aggregate rural savings, there are relatively few studies that specifically test the importance of these factors in explaining rural deposits. One recent study attempted to explain rural deposits in India, Nepal, Pakistan and Sri Lanka using the basic model (Srinivasan and Meyer):

$$D = F(Y, r, i, B)$$

where D = nominal value of rural deposits,
Y = agricultural GDP,
r = nominal interest rate,
i = rate of inflation, and
B = number of bank branches/offices in rural areas.

It was expected that agricultural GDP and number of branches would be positively related to deposits because all four countries had experienced nominal and real increases in agricultural GDP, and actively pursued the spread of rural bank offices. The expected sign for the interest rate variable was positive. Real deposit rates of interest were negative in India and Pakistan during several of the years studied, but Nepal and Sri Lanka liberalized their interest rate policies leading to positive real deposit rates.

The model was fitted to pooled time-series cross-section data covering the twelve years 1970-1981, used generalized least-square (GLS) regression in double-log form. Two empirical models were tested. The first was specified as:

$$(1)\quad \ln D = a_0 + a_1 \ln Y + a_2 \ln B + a_3 \ln(r-i) + b_1 D_1 + b_2 D_2 + b_3 D_3 + c_{31} U_1 + c_{32} U_2 + c_{33} U_3$$

where D = per capita real rural (demand and savings) deposits,
Y = per capita agricultural GDP at constant factor cost,
r-i = real rate of interest on twelve-month time deposits,
and B = number of bank branches/offices per thousand inhabitants in rural areas,
D_i = 1, i = 1,2,3 for Sri Lanka, Nepal and Pakistan, respectively, 0 otherwise. India was selected as the country of reference.
$U_i = D_i \ln B$, D_i = dummy variable for the respective countries

This model implies that households react directly to real interest rates. An alternative formulation permitted a differential response to changes in nominal rates and inflation. The response lag to changes in nominal rates might be shorter than the lag in response to changes in inflation because the latter are filtered through the process of expectation formulation. Therefore, the second model was specified as follows:

$$(2)\quad \ln D = a_0 + a_1 \ln Y + a_2 \ln B + a_4 \ln r + a_5 \ln i + b_1 D_1 + b_2 D_2 + b_3 D_3 + c_{31} U_1 + c_{32} U_2 + c_{33} U_3$$

The sign for the coefficient of nominal interest rate was expected to be positive, while the sign for the inflation variable was expected to be negative.

Table 1 presents the results which were considered reasonable given the limitations of the data. The elasticities for branches and real deposit rates were greater than one. A 10 percent increase in the number of rural branches is associated with a 13 percent increase in rural deposits, while a similar increase in rural deposit rate is associated with a 17 percent increase in deposits. The income variable was less elastic with a value of 0.5. When the branching coefficient was adjusted for country interaction, there was a tendency for lower branch elasticity to be associated with higher bank density. This is logical since the impact of additional branches should be lower when bank density is higher. An F-test revealed that the two models were not statistically different suggesting that rural depositors respond to real rather than nominal interest rates and do not formulate separate expectations of nominal interest rates and inflation.

Beta coefficients were calculated to evaluate the relative importance of the explanatory variables. They showed that changes in transaction costs represented by branch density were relatively more important than changes in agricultural GDP and real interest rates in explaining the variation in rural deposits confirming recent arguments that transaction costs require more attention in understanding rural deposits.

Another recent study analyzed district level bank deposits in Bangladesh (Khalily, Meyer and Hushak). It made the important argument that not only are deposits influenced by access to deposit-taking institutions but bank branches are also influenced by the level of actual and potential deposits in a market area. A simultaneous equation model was tested of the form:

$$(3)\quad \ln(DINT/POP) = A + a_1 \ln PYP + a_2 \ln PYT + a_3 \ln BF + a_4 \ln RDV + a_5 \ln L + a_6 \ln P + U_1$$

$$(4)\quad \ln BF = B + b_1 \ln PYP + b_2 \ln RDV + b_3 \ln P + b_4 \ln PCR + b_5 \ln(DINT/POP) + U_2$$

where,

DINT/POP = District per capita interest bearing deposits,
PYP = District per capita permanent income,
PYT = District per capita transitory income,
BF = Number of district rural bank branches per capita,
RDV = District per capita index of roads and vehicles,
L = District literacy rate,
P = District rural inflation,
PCR = District per capita volume of rural loans outstanding, and
U_1, U_2 = error terms

Equation 3 represents a demand for deposits function while equation 4 represents the supply of deposit services through expansion of bank branches. PCR was excluded from equation 3, and L and PYT were excluded from equation 4. Two-stage least squares (2 SLS) were used to estimate the models.

The roads and vehicles index was included to capture the dimension of transaction costs which is represented by ease of travel. This is important in a country where travel cost and time are great. It was specified as:

$$RDV_j = \frac{RD_j / TA_j}{POP_j / TV_j} \times 100$$

where,

RDV_j = Weighted index of roads and vehicles in jth district,
RD_j = Mileage of roads in jth district,
TA_j = Total geographical area of jth district,
POP_j = Size of population in thousands of jth district, and
TV_j = Total number of vehicles in jth district.

The results of double-log estimation are shown in Tables 2 and 3. The second stage statistics report the direct effect of the explanatory variables on deposits (Table 2) and bank branches (Table 3). The reduced form coefficients show the total effects (direct and indirect) of the variables on deposits and bank branches.

The significant cross coefficients for the bank branch and interest bearing deposits variables in the structural equations support the hypothesis of two-way casualty between deposits and bank branches. The elasticity of interest bearing deposits with respect to bank branches estimated at 0.985 was significant at the 0.05 level, while the elasticity of bank branches with respect to interest bearing deposits estimated at 0.158 was significant at the 0.10 level.

The results confirm that as expected transitory income was more important than permanent income in influencing deposits. Transaction costs represented by bank branches and roads and vehicles have an important effect on demand for deposits along with income and literacy. Deposits, permanent income and inflation affect number of bank branches.

These results show that rural deposits conform to economic theory. Households choose a portfolio of investments and demand more deposits when given appropriate incentives. The expansion of the banking network in rural areas emerges as a particularly important incentive to households through its impact on reducing transaction costs. The location of a bank branch in a market area undoubtedly contributes to households becoming accustomed to dealing with formal institutions and developing the banking habit.

WHAT IS THE OUTCOME OF RECENT EXPERIMENTAL PROJECTS TO MOBILIZE RURAL DEPOSITS?

A number of experimental rural deposit mobilization projects have been conducted in developing countries in recent years. They have often been designed by USAID to help financial institutions mobilize more of their own resources and rely less on funds from the central bank and other external sources. The results of some of these projects are summarized here.

The first pilot savings mobilization project which inspired many of the others was undertaken in Peru (Vogel). It was conducted with the Banco Nacional para las Cooperativas (BANCOOP) during 1979-1981. BANCOOP is a second-level cooperative that receives deposits and makes loans. It deals with the general public in addition to cooperatives. It had been reasonably successful as an urban-based operation and wanted to expand into rural areas.

In less than two years, deposit mobilization in selected pilot offices and BANCOOP generally far surpassed the project's targets. Interviews with depositors revealed that revisions in the interest rate structure, confidence in the financial institution and good service, and effective savings mobilization compaigns contributed to BANCOOP's success. The latter included heavy publicity, prizes and raffles. Differences were noted between cooperative members and nonmembers in their reasons for depositing. For members, the possibility of obtaining a loan predominated, followed by confidence in the institution. For nonmembers, more weight was placed on good service, location, hours of operation and interest payments. Publicity was important in helping depositors learn about BANCOOP, and many looked favorably on the raffles.

The deposit mobilization experiments conducted by credit unions in Honduras and the Dominican Republic followed the spirit of the BANCOOP project. In both countries, a small group of credit unions were selected to receive technical assistance in interest rate reforms, savings mobilization, and loan management. After just two years of operations in Honduras, the five participating credit unions had mobilized substantially more share accounts, passbook accounts, and time deposits than nonparticipating credit unions (Poyo). The loan portfolios of the five credit unions increased by 25 percent in just two years while it actually declined in the nonparticipant group. Aside from providing resources for lending, the participating credit unions were able to repay part of their relatively more expensive external debt.

Likewise, in just two years of operation in 1984 and 1985, the four participating credit unions in the Dominican Republic increased their share capital by a third to three quarters and achieved even faster growth in passbook accounts and term deposits. While outstanding loans rose by factors of two to ten, the level of delinquent loans fell, in one credit union from 70 to 10 percent. As in the Honduras case, the success of these credit unions was attributed to good service, reduced transaction costs and the possibility of getting a loan by developing a banking relationship. When it was realized that the credit unions had sufficient liquidity to grant new loans, delinquent borrowers were more inclined to pay their outstanding loans (Gonzalez-Vega (1986)).

Part of the Dominican Republic project involved opening savings windows in Banco Agricola, the public agricultural development bank. It had 31 branches scattered around the country but until 1983 served only as a lending window for external funds, either foreign or central bank. It was authorized to mobilize deposits, but had little incentive to do so. Its lending activities were unstable; when external funds were abundant it expanded capacity only to be followed by periods of contraction. As a result it was not a reliable and permanent credit source to farmers. The initial success of opening deposit windows in a few experimental branches in mid 1983 was so great that there was great pressure to immediately expand the program. By October 1986, the 30 participating branches had opened about 37,000 accounts, most of which were savings accounts. Total deposits approached RD $10 million. Although this amount was only about 10 percent of the loans outstanding, it represented an important step away from dependency on external funds (Gonzalez-Vega (1986)).

The Bangladesh experiment represented an attempt to test the cost effectiveness of alternative techniques to mobilize rural deposits (Ahmed and Khaled). The project involved the Agrani Bank, one of the country's nationalized commercial banks that was involved during the past decade in the government's efforts to expand rural branches and agricultural lending. It mobilized deposits as part of its regular banking activities. The project involved a comparison of three models, each employed in two different regions. The first was labeled the tangible incentive model and provided special incentives to the depositors for opening or adding to an existing acount. The second was a marketing model which involved the hiring of two temporary bank staff in each branch to promote deposits through door to door contacts with rural households. The third was an employee incentive model which provided cash bonuses to regular bank employees for mobilizing deposits.

All three models succeeded in mobilizing additional deposits in both the rich and poor regions where they were tested over a three month period. Furthermore, the new Agrani Bank deposits did not appear to result from disintermediation from neighboring competing banks. The increase in deposits ranged from one to over eight percent of the branch's existing deposit base. Over half of the new accounts were opened by women who usually are not very active economically in this society. Savings accounts with check writing facilities were more popular than either demand or fixed deposit accounts. Most accounts were only U.S. $3-4 in size, but surprisingly most accounts increased in size over the short life of the project and the number of deposits made per account was generally far greater than the number of withdrawals. Overall, the tangible incentive model provided the highest incrimental increase in income for the bank because of its lower cost of deposit mobilization. But all three models demonstrated the bank's ability to mobilize additional deposits in a very poor country with an annual per capita income of approximately $130.

The experiments conducted in these countries show that rural deposits can be mobilized even from low income households if the financial institutions provide the appropriate incentives and instruments. Special savings campaigns can be useful in publicizing opportunities to save and a wide variety of techniques are available to financial institutions that want to aggressively attract deposits.

WHAT ARE THE KEY ISSUES REMAINING IN RURAL DEPOSIT MOBILIZATION?

Rural deposit mobilization can and should be an important part of the strategy to develop rural financial markets. Rural deposits can be mobilized, they can provide some of the funds used in rural lending, and reduce dependence on external funds. Financial institutions can be stregthened by building a strond rural deposit base. There are several issues, however, that must be addressed as countries attempt to improve their rural deposit performance. Some concern national policy issues while others concern the management of financial institutions.

1. Mix of rural financial institutions. No single financial institution is likely to be optimum for all developing countries, or all regions within a country. A large multi-service commercial bank may be appropriate in a high income rural area where complex financial services are demanded. A small credit union or informal savings group may be more appropriate in a sparsely settled low income region. Some institutions may be encouraged to provide retail financial services while others specialize in wholesaling. The appropriate mix of institutions must be developed for each country considering its unique circumstances.

2. Competition. Expanding multifunctional rural institutions opens up possibilities for increased competition and greater efficiency in the provision of financial services. A trade-off may exist, however, if economies of scale exist in banking. A wide network of small banks or branches will facilitate deposit mobilization, but efficient lending may imply larger units where better expertise on loan evaluation can be developed. Much more must be known about the economies of rural banking before firm recommendations can be made about this general issue.

3. Inflation. Many countries, especially in Latin America, are experiencing double and triple digit inflation. It is extremely difficult for any type of financial institution to thrive in this situation because the optimum investment portfolio may include little money and financial assets. The management of financial institutions in highly inflationary environments faces a serious challenge in developing interest rate policies that will provide depositors with expectations of attractive returns on their savings while at the same time setting lending interest rates that will cover costs and that borrowers can pay.

4. Management of financial institutions. Perhaps the biggest single obstacle to developing a deposit-based rural financial system is human capital. One advantage of the supply-lending strategy was that it could be implemented with relatively limited trained manpower. Decision making was concentrated at the top and local bank staff essentially followed regulations. In some extreme cases, central banks developed voluminous credit manuals to guide lending. Liability management simply involved requesting funds from the central bank, and repaying them when loans were paid. Liability management is more complicated and risky when personal deposits are the main source of funds for lending. Little is known about the fluctuations in potential deposit base due to seasonality and the business cycle, and how these affect optimal loan portfolios in rural areas. More attention is needed to developing appropriate risk reducing mechanisms for unit financial institutions which have assets and liabilities concentrated in a few households/firms in a small geographic area. The quality of bank management and employees must be improved so they can handle the burden required in mobilizing and managing deposits.

5. Regulation and supervision. Much of the recent rural finance literature has concentrated on analyzing the negative aspects of policies and regulations that support the traditional approach to rural financial markets. It might be naively assumed that deregulation is the complete answer. There are areas, however, which require more rather than less regulation or at least regulation concerning other issues. Examples include limits or ceilings on the amount of deposits obtained from and loans made to a single customer to prevent portfolio concentration. Controls are needed on insider transactions conducted with

the management and staff of the financial institutions. Loans to insiders contribute to portfolio concentration, frequently increase loan delinquency and demoralize depositors with worthy projects but who are crowded out of getting loans.

Another specific issue of regulation concerns reserve requirements. High reserve requirements are sometimes rationalized to protect institutions but in practice they are often a way to tax the financial sector. Alternative ways must be found to collect taxes so that reserve requirements do not discourage deposit mobilization.

The capacity to adequately regulate and inspect financial institutions has not kept pace with their expansion and development in many countries. Unless this capacity is increased several fold, corruption and other abuses will continue, depositors and investors will be inadequately protected, and accounting practices will continue to overstate the soundness of financial institutions.

6. Cost and risk reducing innovations. Many of the innovations that financial institutions have undertaken in recent years have been designed to avoid regulations. There is a great need for innovations that reduce costs and risks so that institutions are motivated to voluntarily expand rural financial services. The cost of managing many small deposit accounts is an important concern for successful deposit mobilization. Some experiments are being conducted with microcomputers which may produce some new cost-effective methods. Mobile banks and minibank outlets are being introduced in some countries to reduce costs. Deposit insurance is being considered in some countries to reduce depositor risk and improve preferences for holding financial assets. These innovations can contribute to making rural deposits an economically feasible source of funds for financial institutions.

CONCLUSIONS

Prospects are better today than at any time in the past two decades for developing viable rural financial institutions. Privatization and deregulation are underway around the world. Market incentives are increasingly taking the place of plans, targets and quotas. The weaknesses of the supply-lending rural finance model have been exposed. Neither governments nor donors have the resources to sustain past subsidies. The trend is towards greater rural deposit mobilization and financial intermediation rather than simply pushing cheap agricultural loans.

There is ample evidence that savings exist in rural areas. The challenge is to find ways to mobilize these savings in the form of deposits in financial institutions. Interest rates, transaction costs, the quality of banking services and educa-

tional programs have emerged as key determinants affecting household demand for deposits.

There is a danger, however, that some of the rural deposit mobilization efforts recently conducted and being proposed today suffer from some of the same simple minded advocacy that characterized subsidized credit projects in the past. Mobilizing deposits, safeguarding them for depositors, and using them efficiently for loans and investments by financial institutions is not a simple matter. It is filled with risks for the depositor, for the financial institutions and for the government. The experience that is being gained from the experimental projects underway will help provide information about how to reduce these risks. Stronger more viable self-sustaining financial institutions should emerge because of these experiments.

TABLE 1. -- GLS ESTIMATED COEFFICIENTS OF THE DEPOSIT FUNCTION[a/]

Parameter (Independent Variable)	Equation (1) Estimate	Equation (1) t-ratio[b/]	Equation (1) Standardized Estimate	Equation (2) Estimate	Equation (2) t-ratio[b/]	Equation (2) Standardized Estimate
a_0 (intercept)	-3.405	-7.855**	--	-3.250	-7.440**	--
a_1 (lnY)	0.528	5.438**	0.200	0.620	4.309**	0.235
a_2 (lnB)	1.306	18.815**	1.991	1.303	19.277**	1.986
a_3 (ln(r-i))	1.721	3.077**	0.056			
a_4 (ln(r))				0.056	0.580	0.021
a_5 (ln(i))				-0.012	-0.056	-0.000
b_1 (D_1)	-4.243	-8.818**	-1.776	-4.215	-9.048**	-1.764
b_2 (D_2)	-0.965	-1.165	-0.403	-0.915	-1.044	-0.383
b_3 (D_3)	-3.385	-9.320**	-1.416	-3.316	-9.383**	-1.388
c_{31} ($U_1 = D_1 \ln B$)	-0.592	-4.709**	-0.851	-0.587	-4.829**	-0.843
c_{32} ($U_2 = D_2 \ln B$)	-0.239	-1.387	-0.486	-0.222	-1.233	-0.452
c_{33} ($U_3 = D_3 \ln B$)	-0.513	-1.745*	-0.180	-0.407	-1.249	-0.143
$\bar{R}_2$	0.877			0.872		
F-Value	38.383**			33.115**		

a/ N=48. D_1, D_2, and D_3, are dummy variables where D_1 = 1 for Sri Lanka, 0 otherwise; D_2 = 1 for Nepal, 0 otherwise; and D_3 = 1 for Pakistan and 0 otherwise.

b/ Levels of Significance: ** = 0.01; * = 0.10.

TABLE 2
Estimated Parameters of the Double Log
Interest Bearing Deposit Function

	Permanent Income Hypothesis			Absolute Income Hypothesis	
Parameter (Variable)	Reduced Form Equation T-Ratio)	Second Stage Statistics (T-Ratio)	Indirect Effect a/	Reduced Form Equation (T-Ratio)	Second Stage Statistics (T-Ratio)
Intercept	-1.686***	6.06***		-2.243**	10.992**
	(-.932)	(.884)		(-1.328)	(1.428)
(PYP)	.595*	.057	.538		
	(3.571)	(.083)			
(PYT)	2.783**	2.40**	.383		
	(1.225)	(1.260)			
(L)	.216	.185***	.031	.286***	.169
	(.595)	(.849)		(.811)	(.758)
(P)	-.104	.058	-.162	.009	.287*
	(-.560)	(.230)		(.061)	(1.760)
(BF)		.985*			1.626**
		(1.785)			(1.586)
(RDV)	.278*	.219*	.059	.263	.167*
	(4.138)	(2.333)		(3.948)	(2.194)
(PCR)	.119			.194***	
	(.623)			(1.134)	
(PY)				.565*	-.341
				(3.386)	(-.590)
F-Ratio	7.1 b/	11.91 b/		8.15 b/	16.35 b/
R-Square		.684	—		.706

*Significant at .05 level.
**Significant at .10 level.
***Significant at .20 level.
a/ Indirect effects are estimated as the difference between the reduced form and the second stage coefficients.
b/ Significant at .0001 level

TABLE 3

Estimated Parameters of The Double Log
Bank Branch Function

Parameter (Variable)	Permanent Income Hypothesis: Reduced Form Equation (T-Ratio)	Permanent Income Hypothesis: Second Stage Statistics (T-Ratio)	Indirect Effect[a]	Absolute Income Hypothesis: Reduced Form Equation (T-Ratio)	Absolute Income Hypothesis: Second Stage Statistics (T-Ratio)
Intercept	-8.166* (11.06)	-7.893* (-12.762)		-8.14* (-11.762)	-7.577* (-10.959)
(PYP)	.568* (8.351)	.478* (3.096)	.09		
(PYT)	.402 (.381)				
(PY)				.557* (8.145)	.415* (1.864)
(L)	.038 (.254)			.072 (.483)	
(P)	-.17* (-2.254)	-.155* (-3.591)	-.015	-.171* (-2.936)	-.173* (-4.208)
(RDV)	.063* (2.309)	.022 (.294)	.041	.059* (2.178)	-.007 (-.061)
(PCR)	.126* (1.617)	.107** (1.487)	.019	.119* (1.702)	.071*** (.864)
(DINT/POP)		.158** (1.624)			.252** (1.679)
F-Ratio	12.94[b]	26.20[b]		14.74[b]	29.15[b]
R-Square		.794			.811

*Significant at .05 level.
**Significant at .10 level.
***Significant at .20 level.

[a] Indirect effects are estimated as the difference between the reduced form and the second stage coefficients.
[b] Significant at .0001 level

Endnotes

1. Many of the chapters in the book along with some new chapters are now available in the Spanish version by Adams, Gonzalez-Vega and Von Pischke.

2. Adams and Meyer discuss the ways that low interest rates can actually worsen income distribution.

3. Unlike in many other developing countries, Brazil is one of the few countries where the rapid expansion of agricultural credit has not undermined or destroyed the financial institutions. One important difference is that, for reasons not entirely clear, Brazilian financial institutions seem to have avoided the high levels of delinquency and default of agricultural loans encountered in many other countries.

4. A fuller discussion of this point can be found in Meyer (1985).

5. This section draws heavily from Meyer (1985).

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